

REMARKS

Claims 1-11 and 13-16 are pending in the application. After entry of the Amendment, claims 20-33 are all the claims pending in the Application.

Applicants cancel claims 1-11 and 13-16 and add new claims 20-33.

New claim 20 is supported by the original specification at page 8, lines 7-18; page 13, line 14, to page 14, line 2; page 14, line 10; and original claim 1.

New claim 21 is supported by original claim 2.

New claim 22 is supported by original claim 3.

New claim 23 is supported by original claim 5.

New claim 24 is supported by the original specification at page 13, lines 5-8.

New claim 25 is supported by original claim 8.

New claim 26 is supported by original claim 9.

New claim 27 is supported by original claim 10 and the original specification at pages 27-28.

New claim 28 is supported by original claim 11 and the original specification at pages 28-29.

New claim 29 is supported by the original specification at page 10, lines 11-15; page 14, lines 15-19.

New claim 30 is supported by original claim 14.

New claim 31 is supported by original claim 15.

New claim 32 is supported by original claim 16.

New claim 33 is supported by the original specification at page 7, line 4.

I. Claim Objection

The Examiner objects to claim 8 because of an improper period on line 3. Applicants have canceled claim 8, the subject matter of which is now included in new claim 25. New claim 25 does not contain an improper period.

II. Claim Rejections Under 35 U.S.C. § 101

The Examiner rejects claims 1-11 and 13-16 under 35 U.S.C. § 101 as directed toward non-statutory subject matter. Specifically, the Examiner contends that the claimed method merely performs mathematical computations, and in addition, does not include an independent physical act of either post- or pre-computer processing.

Applicants have canceled claims 1-11 and 13-16 and have added new claims 20-33. Applicants assert that the subject matter of claims 20-33 is statutory. Under MPEP § 2106(IV)(B)(2)(b)(i), subject matter is statutory where it involves the manipulation of data representing physical objects. As the data manipulated in claims 20-33 are protein sequences that unquestionably represent physical objects, applicants assert that the subject matter is statutory. In addition, Applicants do not agree with the Examiner's assertion that the claims do not include independent physical acts of either post- or pre- computer processing. Applicants assert that the methods require that protein sequence data is pre-obtained (prior to the "calculating step") by sequencing the corresponding DNA (pre-computer processing), and furthermore, that the methods involve a step of validating the candidate anti-infective protein either computationally or physically (post-computer processing). Thus, the claims include pre-computer processing and can also include post- computer processing. Accordingly, Applicants request that this rejection be withdrawn.

III. Claim Rejections Under 35 U.S.C. § 112, First Paragraph

The Examiner rejects claims 1-11 and 13-16 under 35 U.S.C. § 112, first paragraph, as not complying with the enablement requirement. Regarding claim 1, the Examiner contends that since the unique outlier protein of claim 1 is necessarily not homologous to any protein sequence in “the various databases,” the unique outlier protein cannot be compared by protein sequence to other biochemical characterized proteins as required in step (vi). Regarding claim 15, the Examiner contends that since a “vaccine candidate” requires the protein to provide some sort of protective immunity, and since the specification has not described a predictive means to identify such a protein, claim 15 is not enabled.

Applicants assert that claim 1, now new claim 20, is enabled since claim 20 does not require that the selected unique outlier protein have homology to a known protein. In addition, Applicants assert that claim 15, now new claim 31, merely requires that the unique outlier protein be used as a vaccine candidate, and not as a vaccine. One skilled in the art would understand that vaccine candidates must be tested for those that actually elicit a protective immune response. Therefore, Applicants assert that the claims are enabled, and accordingly, respectfully request that this rejection be withdrawn.

IV. Claim Rejection Under 35 U.S.C. § 112, Second Paragraph

The Examiner rejects claims 4 and 6 under 35 U.S.C. § 112, second paragraph, as indefinite. Specifically, the Examiner rejects claim 4 as lacking antecedent basis for the limitation “said one or more fixed protein attribute,” and rejects claim 6 because the term “Principle Analysis Technique” is unclear.

Applicants have canceled claim 4, the subject matter of which is incorporated in claim 20. Applicants assert that claim 20 does not lack any antecedent basis, and accordingly is not indefinite.

Regarding claim 6, now new claim 24, Applicants assert that "Principle Analysis Technique" is a typographical error. New claim 24 recites the correct term "Principal Component Analysis."

V. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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